Remarks

The present amendment responds to the final Official Action dated February 7, 2005. That action rejected claims 1-8 under 35 U.S.C. 103(a) based on Dalton et al. U.S. Patent No. 6,419,154 (Dalton) in view of Matsushita U.S. Patent No. 6,762,674 (Matsushita) and in further view of Halperin U.S. Patent No. 6,318,631 (Halperin). Claims 10, 11 and 13-16 were rejected under 35 U.S.C. 103(a) over Dalton in view of Matsushita and in further view of Neumark U.S. Patent No. 6,736,316 (Neumark). Finally claims 9 and 12 were rejected under 35 U.S.C. 103(a) over Dalton in view of Matsushita in view of Neumark and in view of Halperin. These grounds of rejection are addressed below following a brief discussion of the present invention to provide context. Claims 1-16 are presently pending.

The Present Invention

The present invention is entitled "Dual-Communication Electronic Shelf Label System and Method". As discussed in the Background, the present inventors recognized that "ESL systems have bandwidth limitations that could be exceeded as retailers discover the benefits of real-time price optimization," and that "ESL systems also compete with other systems for bandwidth." Page 1, lines 16-19. To address such issues, the present invention provides systems and methods for dual communication with concurrent transmission and reception utilizing a plurality of ESLs that operate in different modes. See page 1, line 28-page 2, line 8, and page 3, line 25-page 4, line 6, for example.

Examples of different modes are the use of different bands, different parts of bands, or different communication types. For example, downlink communication my be at 2.4 GHz and

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uplink at 400 MHz. The downlink may be wireless RF while the uplink is wireless infrared. The downlink may be wireless RF while the uplink utilizes-inductive coupling. See page 3, line 25-page 4, line 6. Utilizing the inventive approach, the air time can be increased by facilitating communication over both the downlink and uplink channels simultaneously. See page 4, lines 9-16.

The Art Rejections

As addressed in greater detail below, Dalton, Matsushita, Halperin and Neumark do not support the Official Action's reading of them and the rejections based thereupon should be reconsidered and withdrawn in light of the present remarks. Further, the Applicant does not acquiesce in the analysis of the above items made by the Official Action and respectfully traverses the Official Action's analysis underlying its rejections.

Dalton as previously noted is assigned to the assignee of the present invention and represents one example of the admitted state of the art briefly discussed in the Background of the present invention. While Dalton recognized that downlink and uplink technologies may be different at col. 1, lines 29-38, as noted by the Examiner and as further discussed at col. 3, lines 3-16, it specifically addresses an arrangement in which a relay unit includes a single transmitter connected to multiple transmit antennae to provide improved RF transmission while maintaining lower costs. Col. 1, lines 53-56. Dalton does not teach and does not make obvious concurrent communication between a base station and a plurality of ESLs utilizing two different

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communication modes as presently claimed. It does not appear to recognize the problem of insufficient bandwidth, nor does it suggest a solution thereto.

As previously discussed, Matsushita appears to be incapable of the presently claimed operation as its ESLs do not communicate directly with the base station, but rather communicate indirectly through intermediate relays as discussed further below. The Official Action specifically relies upon col. 5, lines 16-67 of Matsushita. That text describes the communication of base station 16 with an ESL at 2.4 GHz, as well as, communication by the ESL with a radio relay station at 300 MHz. Matsushita's Fig. 5 shows details of his relay stations 13-1 to 13-k. His relay station includes a single 2.4 GHz transmission section 137 which transmits ID information for an ESL transmitting a negative response to the base station. Col. 5, line 61-col. 6, line 19. Similarly, details of Matsushita's base station 16 are shown in Fig. 3. That base station has a single 2.4 GHz transmission section 164 and a single 2.4 GHz reception section 165. Col. 4, lines 63-67. To sum up, Matsushita lacks the circuitry to support concurrent communication between a base station and plural ESLs utilizing two modes of communicating as presently claimed. All of the wireless communication by the Matsushita base station appears to utilize the single 2.4 GHz mode, and there appears to be no basis to understand Matsushita as addressing concurrent transmission and reception by the base station.

As such, Dalton does not anticipate and does not make obvious the present claims. Matsushita provides no basis for modifying Dalton to meet the terms of these claims. The Official Action implicitly admits as much based upon its reliance upon newly cited Halperin and Neumark.

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Rejection of Claims 1-8 and 9-12

The final Official Action newly relies upon Halperin stating at page 4 "In the same field of endeavor of electronic shelf labels system, Halperin teaches wherein the electronic shelf labels system employs with concurrent transmitting and receiving communications mode" citing Halperin col. 5, lines 55-63. This analysis is traversed as factually insufficient as a basis for rejecting these claims. Halperin purports "to provide novel apparatus and methods for providing synergy between bar code and electronic labeling systems". Halperin col. 2, lines 25-30. To this end, he describes a scanning communicator 10 which can illuminate with light beams 14 and 16 a bar code 18 and/or an electronic label 20. Halperin col. 4, lines 36-40. To the extent he addresses communication in any detail, he does so in the context of communication by this communicator 10. The communicator's optical receiver 22 detects light reflection 24 from a bar code 18 or a light emission 26 from an electronic label 20. Col. 4, lines 40-42. Optical transmitter 12 and optical receiver 22 of scanning communicator 10 also communicate with a central computer. Col. 4, lines 50-52. In one embodiment, separate bar code scan and electronic label communication modes are employed to scan bar codes and communicate with electronic shelf labels, respectively. Col. 4, lines 54-66.

In this context, the Halperin text at col. 5, lines 55-63, relied upon by the final Official Action, indicates "one or more additional optical transmitter 36 and optical receiver 38" may be employed "concurrently with optical transmitter 12 and optical receiver 22" so that concurrent bar code scanning and communication with an electronic label by **scanning communicator 10** can occur. Halperin Fig. 4 shows such an arrangement with an optical transmitter 82 for

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scanning a bar code and an optical transmitter 84 for sending a beam of light for communicating with an electronic label. Halperin, col. 8, lines 43-47. Different frequencies of 10 kZ and 30 kZ are suggested. Col. 8, line 64-col. 9, line 5.

Such operation does not meet the terms of claim 1, 9 or 12, nor does it make these claims obvious. The concurrent transmission of claim 1 is "a first message" from a base station "to a first electronic shelf label" and "a second message" received by the base station "from a second electronic shelf label". Far from suggesting such communication, Halperin states "Electronic shelf label 50 may also comprise a transceiver 55 for wired or wireless communication, such as with a central computer (not shown) as is known in the art." Col. 6, lines 9-11. As such, if anything, Halperin either teaches away from the present claims or represents a failure of others. Either of these alternatives, teaching away or a failure of others, is an indicia of nonobviousness rather than obviousness.

Rejection of Claims 10, 11 and 13-16, and 9 and 12

The final Official Action newly relies upon Neumark in rejecting these claims stating at page 9 that "Neumark discloses a method of having a full duplex electronic labeling system and is advantageously employed in stores retail establishments" citing Neumark col. 4, lines 22-39. Neumark states at col. 4, lines 21-23 that it uses "a network of ultra wide band (UWB) units capable, as a group, of precisely locating objects in three-dimensional space". Further "[m]inature units may be built into electronic shelf units". Col. 4, lines 27 and 28. The UWB network may comprise a wired or wireless simplex or duplex electronic labeling system". Col. 4, lines 29-31. "In duplex systems the label responds with an acknowledgment when addressed."

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Col. 4, lines 38 and 39. At col. 6, lines 40-44, Neumark further states "Signals are sent, on demand, from the first transceiving means 40 the data processing means 50 to confirm satisfactory operation of the identification labels". He also adds by "precisely timing these transmissions, and by using matched antennas at the nodes, highly efficient communication is possible, as is described in the references." Col. 7, lines 57-59. This discussion while using the word "duplex" appears to describe an arrangement in which a label is addressed at a first time and them it responds at a second time, or in other words, non-concurrent operation. At col. 8, lines 8-15, Neumark further addresses his location process in a similar manner. A location request is transmitted. It is received by all of the labels 30. The labels corresponding to the identification code responds and all other labels remain silent.

While Neumark admittedly uses the word "duplex" as noted above, it does not disclose both "receiving the response in a second time period from the first electronic shelf label" and "sending a second message during the second time period to a second electronic shelf label as claimed in claim 10, for example.

To sum up, Halperin and Neumark do not cure the admitted failings of the previously relied upon prior art. Consequently, the rejections should be reconsidered and withdrawn.

Conclusion

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All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,

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